Aging…

Did you know?

- Vast majority of people in middle age
  - Face no chronic health difficulties
  - Fewer accidents and infections
**Table 7-1, continued**

<table>
<thead>
<tr>
<th>Screening</th>
<th>Description</th>
<th>Ages 60-69</th>
<th>Ages 70-79</th>
<th>Ages 80+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol—Total/HDL</td>
<td>Used to detect high cholesterol, which increases risk of heart disease</td>
<td>Every 2-4 y</td>
<td>Every 3 y</td>
<td>Every 4 y</td>
</tr>
<tr>
<td>Eye Examination</td>
<td>Used to determine if glasses, contact lenses, or eye surgery is needed</td>
<td>Every 2-4 y</td>
<td>Every 3-4 y</td>
<td>Every 4-5 y</td>
</tr>
<tr>
<td>Flexible sigmoidoscopy or colonoscopy</td>
<td>A procedure using a scope or a ray to detect cancer of the colon and rectum</td>
<td>Baseline at age 50 — Every 4-6 y after initial test</td>
<td>Baseline at age 50 — Every 8 y after initial test</td>
<td>Baseline at age 50 — Every 10 year after initial test</td>
</tr>
<tr>
<td>Breast self exam/breast exam by provider</td>
<td>Examination to detect changes in breast that may indicate cancer</td>
<td>Every month (Every other year)</td>
<td>Every month</td>
<td>Every month (Every year)</td>
</tr>
</tbody>
</table>

**Additional Guidelines for Women**

- Pap smear: Tests performed to detect cervical cancer and abnormalities in the cervix. Recommended every 2-3 years for women who have not had a hysterectomy. Recommended every 1-3 years for women who have had a hysterectomy.
- Pelvic exam: Examination to detect pelvic abnormalities. Recommended every 1-2 years for women who have not had a hysterectomy. Recommended every 2 years for women who have had a hysterectomy.

**Additional Guidelines for Men**

- Prostate specific antigen: Test used to detect cancer in the prostate gland. Recommended every 1-2 years for men who have a family history of prostate cancer. Recommended every 1-2 years for African American men who are over 40.
- Testicular self-exam: Examination to detect changes in testicles that may indicate cancer. Recommended every month (Every other month) for men who have a family history of testicular cancer. Recommended every month for men who have no family history of testicular cancer.
Gender Differences

- During middle age, women experience more non-life threatening illnesses than men but men experience more serious illnesses
  - Women smoke less; drink less alcohol; have less dangerous jobs

- Medical research has typically studied diseases of men with all male samples; the medical community is only now beginning to study women's health issues

Stress in Middle Adulthood

- According to psychoneuroimmunologists (who study the relationship between the brain, the immune system, and psychological factors) stress has THREE specific consequences for health
  - Direct physiological outcomes – e.g., increased blood pressure and hormonal activity.
  - Harmful behaviors
  - Indirect health-related behaviors
What are the consequences of stress in middle adulthood?

Coronary Heart Disease

- More men die in middle age of diseases of the heart and circulatory system than any other cause.
  - Both genetic and experiential characteristics are involved
    - Cigarette smoking
    - High fat and cholesterol in diet
    - Lack of physical exercise
  - Heart disease runs in families
  - Men are more likely to suffer than women, and risks increase with age
TYPE A BEHAVIOR PATTERN

- Characterized by
  - Competitiveness, impatience, and a tendency toward frustration and hostility, are more susceptible to heart disease

- Evidence is only correlational so cannot say Type A behavior causes heart disease

TYPE B BEHAVIOR PATTERN

- Characterized by
  - Non-competitiveness, patience, and a lack of aggression

- Evidence that Type B people have less than half the risk of coronary disease that Type A people have
The Threat of Cancer

- Cancer is associated with genetic and environmental risks
  - Poor nutrition, smoking, alcohol use, exposure to sunlight, exposure to radiation, and particular occupational hazards
- Early treatment is related to higher survival rate

Cancer Treatment

- Takes a variety of forms
  - Radiation therapy involves the use of radiation to destroy a tumor
  - Chemotherapy involves the controlled ingestion of toxic substances meant to poison the tumor
- Surgery may be used to remove the tumor
- Early diagnosis is crucial
Breast Cancer

- *Mammography*, a weak X-ray, is used to detect breast cancer
- Death rate lower for those who had a "fighting spirit" or those who denied they had the disease
- A positive psychological outlook may boost the body's *immune system*

Chapter 7:
Middle Adulthood

Module 7.2
Cognitive Development in Middle Adulthood
In middle adulthood…

What happens to a person’s intelligence in middle adulthood?

“To find out if you’re someone who could benefit from our Memory Improvement Seminar, press 159736222830952176610137.”
In middle adulthood...

- How does aging affect memory, and how can memory be improved?

Does intelligence decline in middle adulthood?

- Cross-sectional studies clearly showed that older subjects scored less well than younger subjects on traditional IQ tests
  - Intelligence peaks at 18, stays steady until mid-20s, and declines till end of life

- Longitudinal studies, revealed different developmental patterns in intelligence
  - Stable and even increasing IQ scores until mid-30s and some to mid-50s, then declined
Difficulties in Answering the Question

- Older research
  - Cross sectional studies
  - Cohort effect
- Newer research
  - Longitudinal studies
  - Practice effect and participant attrition

Testing Effects

- Practice effect
- Attrition
- Physical performance portion
  - Timed
  - Reaction time slows with age
  - Results may be due to physical changes not cognitive changes
Kinds of Intelligence

- **FLUID INTELLIGENCE** is the ability to deal with new problems and situations
  - Fluid intelligence is inductive reasoning, spatial orientation, perceptual speed, and verbal memory. Fluid intelligence does decline with age.

- **CRYSTALLIZED INTELLIGENCE** is the store of information, skills, and strategies that people have acquired through education and prior experiences, and through their previous use of fluid intelligence
  - Crystallized intelligence includes numerical and verbal abilities, such as solving a crossword puzzle or a mathematical problem.

Relationship Between Fluid and Crystal Intelligence

![Graph showing the relationship between fluid and crystallized intelligence over stages of life.](Source: Stren, 1961)
Crystallized intelligence holds steady or increases with age.

Even though scores on IQ tests decline with age, middle-aged people show no decline in general cognitive competence.
- Traditional tests may not tap into practical intelligence…

Continuing Competence versus Growing Decline

Salthouse suggests four reasons why this discrepancy exists:
1. Typical measures of cognitive skills tap a different type of cognition than what is required to be successful in particular occupations
2. Measures of practical intelligence rather than traditional IQ tests to assess intelligence may yield little discrepancy
3. People can be quite successful professionally and still be on the decline in certain kinds of cognitive abilities
4. Older people may be successful because they have developed specific kinds of expertise and particular competencies
Highly Successful Middle Age People

Older, successful people may have developed expertise in their particular occupational area.

The Development of Expertise: Separating Experts from Novices

- **EXPERTISE**, the acquisition of skill or knowledge in a particular area, develops as people devote attention and practice
  - **Expert** = rely on experience and intuition, process information automatically, use different neural pathways to solve problems
  - **Novice** = strictly follow formal rules and procedures, use better strategies and better problem-solving
Memory: You Must Remember This

- According to research on memory changes in adulthood
  - Most people show only minimal losses
  - Many exhibit no memory loss in middle adulthood

- Memory is viewed in terms of three sequential components
  - Sensory memory
  - Short-term memory holds information for 15 to 25 seconds
  - Long-term memory

Schemas in Middle Adulthood

- **Schemas**, organized bodies of information stored in memory.
  - Help people represent the way the world is organized
  - Aid in categorization and interpretation of new information
  - Convey cultural information
Becoming an Informed Consumer of Development

Effective Strategies for Remembering

- Get organized
- Pay attention
- Use encoding specificity phenomenon
- Visualize
- Rehearse

Expertise comes with PRACTICE